In the Specification

Page 7, line 18, immediately prior to "three-plasmid", insert --prior art--.

In the Claims

Please amend Claims 1, 5, 7, 8, 12, 16, 20, 22, 23, 27, 31 and 35 as follows:

1. (Amended) A packaging cell line [for producing a viral accessory protein independent HIV-derived retroviral vector particle] comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a HIV *gagpol*[, wherein said coding sequence has been mutagenized to improve expression of the HIV gagpol proteins] but not coding sequences for HIV accessory proteins or constitutive transport elements;

c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein; and

d) a third retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration,

wherein said packaging cell line produces a HIV-derived retroviral vector particle.

5. (Amended) A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a HIV *gagpol*[, wherein said coding sequence has been mutagenized to improve expression of the HIV gagpol proteins] but not coding sequences for HIV accessory proteins or constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration.

7. (Amended) A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a HIV *gagpol*[, wherein said coding sequence has been mutagenized to improve expression of the HIV gagpol proteins] but not coding sequences for HIV accessory proteins or constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein.

8. (Amended) A method of producing a packaging cell line which produces [for producing] a [viral accessory protein independent] HIV-derived retroviral vector particle, comprising co-transfecting mammalian host cells with:

a) a first plasmid comprising a codon optimized DNA sequence which encodes HIV *gagpol* proteins[, wherein said DNA sequence has been mutagenized to improve expression of the HIV gag and pol proteins] but not DNA sequences encoding HIV accessory proteins or constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

c) a third plasmid comprising a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration,

thereby producing a packaging cell line which produces a HIV-derived retroviral vector particle.

12. (Amended) A method of producing a [viral accessory protein independent] HIV-derived retroviral vector particle comprising co-transfecting mammalian host cells with:

a) a first plasmid comprising a codon optimized DNA sequence which encodes HIV *gagpol* proteins[, wherein said DNA sequence has been mutagenized to improve expression of the HIV gagpol proteins] but not DNA sequences encoding HIV accessory proteins or constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

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c) a third plasmid comprising a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration, thereby producing a HIV-derived retroviral particle.

16. (Amended) A packaging cell line [for producing a viral accessory protein independent lentivirus-derived retroviral vector particle] comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for a lentivirus *gagpol*[, wherein said coding sequence has been mutagenized to improve expression of the lentivirus gagpol proteins] but not coding sequences for lentivirus accessory proteins or constitutive transport elements;

c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein; and

d) a third retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration,

wherein said packaging cell line produces a lentivirus-derived retroviral vector particle.

20. (Amended) A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for lentivirus *gagpol*[, wherein said coding sequence has been mutagenized to improve expression of the lentivirus gagpol proteins] but not coding sequences for lentivirus accessory proteins or constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration.

22. (Amended) A packaging cell line comprising:

a) a mammalian cell;

b) a first retroviral nucleotide sequence in the cell which comprises a codon optimized coding sequence for lentivirus *gagpol*[, wherein said coding sequence has been mutagenized to improve expression of the lentivirus gagpol proteins] but not coding sequences for lentivirus accessory proteins or constitutive transport elements; and

c) a second retroviral nucleotide sequence in the cell which comprises the coding sequence for a heterologous envelope protein.

23. (Amended) A method of producing a packaging cell line which produces [for producing] a [viral accessory protein independent] lentivirus-derived retroviral vector particle, comprising co-transfecting mammalian host cells with:

a) a first plasmid comprising a codon optimized DNA sequence which encodes lentivirus *gagpol* proteins[, wherein said DNA sequence has been mutagenized to improve expression of the lentivirus gag and pol proteins] but not DNA sequences encoding lentivirus accessory proteins or constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

c) a third plasmid comprising a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration,

thereby producing a packaging cell line which produces a lentivirus-derived retroviral vector particle.

27. (Amended) A method of producing a [viral accessory protein independent] lentivirus-derived retroviral vector particle comprising co-transfecting mammalian host cells with:

a) a first plasmid comprising a codon optimized DNA sequence which encodes lentivirus *gagpol* proteins[, wherein said DNA sequence has been mutagenized to improve expression of the lentivirus gagpol proteins] but not DNA sequences encoding lentivirus accessory proteins or constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

c) a third plasmid comprising a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration,

Sub C2 B8 cont Cont

thereby producing a lentivirus-derived retroviral vector particle.

31. (Amended) A [viral accessory protein independent] HIV-derived retroviral vector particle having no viral accessory proteins produced by the method comprising co-transfecting mammalian host cells with:

Sub C3 B9

a) a first plasmid comprising a codon optimized DNA sequence which encodes HIV *gagpol* proteins[, wherein said DNA sequence has been mutagenized to improve expression of the HIV gagpol proteins] but not DNA sequences encoding HIV accessory proteins or constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

c) a third plasmid comprising a DNA sequence of interest and HIV cis-acting sequences required for packaging, reverse transcription and integration.

Sub C5 B10

35. (Amended) A [viral accessory protein independent] lentivirus-derived retroviral vector particle having no viral accessory proteins, produced by the method comprising co-transfecting mammalian host cells with:

a) a first plasmid comprising a codon optimized DNA sequence which encodes lentivirus *gagpol* proteins[, wherein said DNA sequence has been mutagenized to improve expression of the lentivirus gagpol proteins] but not DNA sequences encoding lentivirus accessory proteins or constitutive transport elements;

b) a second plasmid comprising a DNA sequence which encodes a heterologous envelope protein; and

c) a third plasmid comprising a DNA sequence of interest and lentivirus cis-acting sequences required for packaging, reverse transcription and integration.

REMARKS

Specification Amendment

The specification has been amended to more clearly recite that the three-plasmid expression system described in Naldini *et al.*, *Science*, 272:263-267 (1996), and shown